

App. F. IX-4

1928-29

File No. 52-2A

Previous References

Serial

Serial Nos. 1-2

Later References

Serial 52-2A (3.8)

Serial 94-29 (1.4)

*Princed
by*

p.15(E)

General and Revenue Secretariat.

Serial Nos.

Two

Part B for Dec 28

SUBJECT

Report of work done by Mr K. Shamsuddin-
Khan, Assistant superintendent of Agriculture
in Japan

DSS 54 & 28.11.28

To Director G & R

Requests him to take necessary action
on the various points noted in the

Enclosure

General and Revenue
Secretariat.

Serial File No. 52 of 1928

D. 2916

Serial
No. 7

Letter no 12-2359-27 dated 3rd Oct.
1928 from the Dir. of P.K. forwarding
a copy of a brief report of work done
by Mr. K. Shamsuddin Khan
during the period 13.7.28 to 13.8.28.

(1) Subd for perusal.
18.9.10.28

[Signature] (Sd)

UP

10/10

(2) Very interesting report. Perkins having
a special significance bus are marked.

[Signature]

19/10/28

UP

20/10

(3) As observed by the Development Secretary,
Mr. Shamsuddin Khan's report is very interest-
ing. I do not know how often he has been re-
quired to send his reports. This is perhaps the
first report we have received. I should like
to read all his reports as they are received.

(4) I note some of the points which strike me
as a layman as requiring study by us:

(5) (1) Have we here the fungus disease for the
prevention of which copper sulphate is stated
to be useful, and if so, are we using this arti-
cle in our operations?

We have a fungus
disease called rust
disease. We are not
adopting any remedy
at present. The one
suggested by Mr. Shamsuddin
might be tried.

NOTE—Contn. Sheet.

[Handwritten notes and signatures]
Yes Council the
and also Dept
for a number

General and Revenue
Secretariat.

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(2) This device is unnecessary here, because
(1) Silk worms can be reared all the year round, unlike Japan
(2) We have no surplus seed - we can hardly meet current requirements - and therefore it is not here is no need to think of preserving any. But we are unable to meet the demand.

(3) This method is adopted in the Domestic Basins filatures, where the cooking is done in a single cooking basin. I got the idea from the Japanese practice. We might try it for the French Filature basins also later on, after the Domestic Basins are installed in the Filature. *Yes. The first may be kept in mind.*

(4) We tried foot-reeling machines, but they are not suitable to our conditions. The machines are flimsy, and the silk reeled will have to be re-reeled and skinned before being put on the market. The output is also very small. *Yes. The first may be kept in mind.*

(5) We are considering it, but it adds to the cost. At present, only the lowest class of cocoons are separated out and reeled in the chamber.

(2) Mr. S. Khan states that "seeds can be preserved for as long as two years without loss of germinal vitality by preserving them in a glass jar which has at its bottom calcium chloride separated by a wire-net tray into which seeds in muslin bags are deposited". Is there any scope here for the employment of this device and can it supplant or supplement the work of cold storage preservation?

(3) *Consolidated Combined* So the cooking of cocoons under the supervision of an expert is, no doubt, a contrivance of great value in a large sized filature. May we, as an experimental measure, try this device in our Filature which, with the installation of the Domestic Basins, will have some 20 units at work?

(4) *Yes. The first may be kept in mind.* I do not know if foot-reeling machines have any place in our sericultural operations. Has this arrangement been considered? Has the value, if any, of these machines in our scheme of work been examined?

(5) Have we carried out any experiments in the way of grading of cocoons for purposes of reeling and reeling only the high grade ones in the Filature?

(6) Mr. S. Khan refers to one or two contrivances for stifling cocoons. We might, as suggested

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(6) A report will be
obtained. *Yes*
K.R. Muz

(7) The Dir will be
asked to include a
visit to Shanghai
& Canton in the
itinerary at the
time of return of
the scholar *Yes*
K.R. Muz

(8) This result has been
obtained through long
continued seed control,
and cumulative
selection. The fact that
univoltines and bivoltines
admit of more time for
microscopic examination
whereas polyvoltines
(like musc worms) have
to be examined within about
five or six days, has also a very important
bearing on the subject. Also, it is possible
to insist on a higher standard of seed

suggested by the Development Secretary, get
from Mr. S. Khan full information on this point
and particulars and plans of the several devices
adopted in Japan -

(7) I hope a visit to Shanghai and other
places ^{in China} where silk, which competes with our pro-
duct, is produced, is included in the programme
of Mr. S. Khan's deputation. I personally ask-
ed him to make a special study of this subject.
We cannot have too much information in regard
to the conditions under which the rival product
which is ousting us from the market is manufac-
tured; in particular, the factors ⁱⁿ which con-
tribute to make the Chinese product such a ~~cheap~~
cheap article in the Indian market require to
be very closely studied. This may be impress-
ed upon Mr. S. Khan.

(8) Mr. S. Khan refers to the efficiency of
the examination ^{in Japan} for testing the quality of seed
cocoons. Have we any lessons of value on this
point from what Mr. S. Khan has stated?

Mm/C
23/10/28
where there are many well
equipped framings which can

NOTE—Contn. Sheet.

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General and Revenue
Secretariat.

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No.

may

Conform to the tests laid down. I believe our prisoners reject sand cocoons which on test show more than 6% of pebrine (against 1% in Japan)

(5) I have noted in the margin for convenience of reference, against the points touched in the minute.

(7) The Dir. ITC will no doubt sub the S. Khem's reports as they are rec'd. He will also be requested to do so.

may



1st Member)

WJ

23 10 28

8 Please see remarks in margin

may



9 Please put up with

26 10 28

WJ

27 10 28

WJ 28/10

10 Subd with a draft

18.10.11.28.

14
14.11.28

for approval

15/11

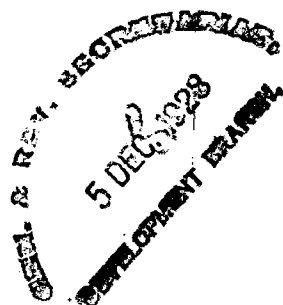
See long

issue

WJ

23 11 28

Serial
No.
2.



To The Director of I & C
D. 5554/ dated 28/11/28.

Requests him to take necessary action on
the various points noted in Mr. Shamsuddin
Khan's report.

ROUTINE NOTES.

[To be used only for notes, requisitions, etc., not intended for permanent record.]

Telegraphic Address: "INDUSCOM."

In reply please refer to
No. ~~D4-2359/27-28.~~

GOVERNMENT OF MYSORE.
DEPARTMENT OF INDUSTRIES AND COMMERCE.

OFFICE OF THE DIRECTOR,

Dated Bangalore, the... 3rd Oct. 1928

FROM

C. RANGANATHA RAO SAHIB, Esq., B.A., B.L.,

Director of Industries and Commerce in Mysore

GEN'L REV. SECRETARIAT.
2916
5 OCT 1928
BANGALORE (India).
DEVELOPMENT BRANCH.

To

N. RAMA RAO, Esq., B.A., B.L.,

Secretary to Government, Development Depts.,
B A N G A L O R E.

SIR.

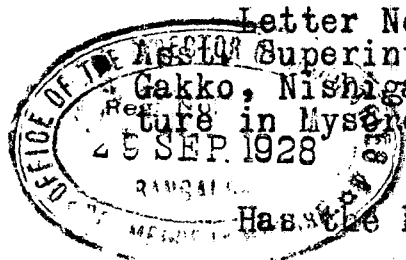
Slr 52-28-1

I have the honour to forward herewith for the perusal of Government a copy of a brief report of work done by Mr.K. Shamsuddin Khan, B.A., Assistant, Superintendent of Sericulture, who is now at Tokyo, Japan (on deputation) during the period of 13-7-1928 to 12-8-1928 received with Sericultural Superintendent's letter No.1592 dated the 25th September 1928.

I have the honour to be,
Sir,
Your most obedient servant,

C. Ranganatha Rao Sahib
D I R E C T O R.

ksv.



Letter No. 21 dated 17-8-28 from Mr. K. Shamsuddin Khan, B.A., Assistant Superintendent of Sericulture (on deputation), Koto Sanshi Gakko, Nishigahara, Tokyo, Japan, to the Superintendent of Sericulture in Mysore, Mysore.

Has the honour to submit herewith a brief diary of work done during the period 13-7-28 to 12-8-28 for favour of information.

Diary of work done during the period 13-7-28 to 12-8-28.

27.9.28
M.S.
This is obvious for the fungus disease known as white rot.

The summer crops that were under progress were harvested during the first week of August. Unusually during July and August of this year there have been incessant rains in Japan. Consequently the humidity and dry weather experiments could not be carried out fully. But from the observations made during the short period the worms in standard humid conditions thrived better than those in comparatively less humid conditions, etc. Experiments with the action of copper sulphate on mulberry leaves gave the results got in the previous experiment, viz., the longer the period of action of copper sulphate on mulberry leaves the greater was its germicidal effect. Between 15 to 20 days were necessary to obliterate the injurious effects of copper sulphate on leaves to be fed to worms.

Experiments with moulting factors and ^{linked} liked characters gave the same cross-over values as in the previous experiment. Experiments in regeneration of lost or amputated parts were followed. Out of several thousands of worms whose legs pro - mero, etc., were partially cut off regeneration did not occur excepting in two cases where the amputated legs did regenerate. Experiments in branch feeding in normal conditions gave the same result, viz., economy of labour, costs, and mulberry leaves. But the cocoons were of a mixed grade, i.e., they were ununiform in size necessitating greater care in grading of cocoons for reeling purposes.

① Professor Tekagi continued his theoretical lectures to me till the close of July. The various varieties of mulberry cultivated commonly in Japan were studied. Preparation of seeds for seedlings, preservation of seeds, viz., in various materials of which calcium chloride is the best were studied. Seeds can be preserved for as long as two years without loss of germinal vitality by preserving them in a glass jar which has at its bottom calcium chloride separated

separated by a wire-net tray into which seeds in muslin bags are deposited. This method has been very satisfactorily demonstrated by Prof. Tekagi.

Practice in various methods of grafting, layering and farming was done.

More literature in Genetics, Rearing, Mulberry cultivation, Physiology and Anatomy of silk worms was studied.

From 13-7-28 to 6-8-28 I attended the College and did rearing and other work as explained above.

I toured from August 6th to 13th in the Western Parts of Japan with Professor Fukumoto of Filature and Reeling Department to study the Filature machinery, organization of reeling industry, etc. I visited five filatures and studied the varying conditions in the five filatures as also the machinery employed.

Several instructive, interesting and important things were noted after careful study.

All the filatures have dispensed with the jette-boutte system and instead employ only button system and reel only 4 to 6 ends according to size required. The machinery is simple and reels are close to reellers so that knotting is attended to by them, thereby dispensing with the services of knotters. There is no cooking pan attached separately to each basin. On the other hand cooking is done in one special room and is in the hands of experts. (2)

We have anticipated this in our Drm. Bessie

Generally the method employed is to encase small quantities of cocoons in wire-net-boxes and to transfer them on a moving chain that leads into a closed box where the cocoons are operated upon by steam for about a minute and then these pass on into a chamber (on the same chain) where water at 85°C. is sprayed. From there the box passes into the contiguous chambers containing hot water of lower temperature till the boxes emerge out of the long chamber and empty themselves into small buckets which are transferred to a trolley which takes the cocoons to reeling factory. A small filature of 125 basins has only two such small chambers with 1 expert in cooking, two assistants and 3 or 4 operators required for filling in cocoons in boxes, weighing, and transferring. In some filatures the cooking chambers are doubled by having one series

series of chambers over the other. For lower grade cocoons and for cocoons of more gummy nature sinking system of cocoons is employed in cooking. Thus cooking is highly specialised and a good deal of economy is effected in this branch.

Also heavy brushes have been dispensed with and instead light ones are employed which economise removal of silk-waste. All the filatures have re-reeling factories attached to them and testing of silk is done in filatures for elasticity, tenacity, uniformity, and cleanliness to which much attention is paid. The filatures work for ten hours and each reeler gives $1\frac{1}{2}$ to $2\frac{1}{2}$ lbs. of silk per day according to the size reeled. The average renditta is 8, and the ratio of silk waste to silk is 1:3. Almost all of the filatures in the interior have coordinated reeling in foot-reeling machines for lower grade cocoons. Much attention is paid to grading of cocoons which is done in two stages, viz., sorting on ^{planks} ~~planters~~ in front of open windows situated to light and on inclined chambers through which cocoons pass out on a glass sheet illuminated by direct sun light or electric light. Only high grade cocoons are reeled in filatures and lower grade ones are passed on to foot-reelers who work on piece and quality wages.

For conditioning of cocoons various grades of machinery are used. Gunze filature which is the biggest in Japan and has able experts on its staff discards Italian system. In this filature the plant used drives hot air by means of fans into cocoon chambers which are approximately each 4' x 7' x 10'. The air passes into chambers from horizontal tubes which have exit apertures in them. The cocoons come down automatically from lower temperature levels to higher temperature levels gradually till at last they are finally expelled out of the chamber automatically. The other filatures use less modernised types but claim that they are quite economical.

The big filatures have egg-card department also for the benefit of their constituent rearers. The purchase of cocoons is generally effected through the respective guilds but sometimes independent purchases are also made. Silk is exported to America through exporters at Yokohama. Only two filature, viz., Gunze and Katakua export directly. Foot-reeled silk is used in Japan and is not

exported

exported out. From enquiries I learn that silk is not exported to India from Japan and I am lead to believe that all the imported silk into India is either from Shanghai or that of Canton, where sericultural conditions are different from those in Japan. 116

I went to Hotei where there is a second grade station for egg-supply, etc. (silk-worm). I studied the organisation and working of this Institution. Eggs are prepared for spring, summer, and autumn crops and at each time about seventy thousand to a lakh of layings are prepared and distributed to about 250 licensed seed rearers, whose crops are strictly supervised and cocoons are got disposed for seed purposes if found satisfactory. *that first to buy the seed Station does not supply direct to rearers, but only to seed man- factories*

The egg cards are of general type and the usual method of examination is followed. When there is heavy examination work temporary lady examiners are employed. The Director of this Institute told me that the examination is so strict and that the quality of seed-cocoons has been so far developed that pupa examination indicating 1% or more of pebrine warrants rejection of that lot of seed cocoons. Pippets are used for dropping crushed-material on slides and crushed material before examination is transferred into tubes held in a circular stand which is submitted to the action of a centrifugal autoclave for one minute. *by concern- heating the spores.* This effects satisfactory results in examination. This Institution besides doing examination work, supervises seed cocoon crops, arranges for training of students in various branches of sericulture, delivers lectures, issues instructions to mulberry growers, and rearers and reelers, rears its own seed cocoons, issues from nurseries mulberry seedlings and carries its own experiments either of a general sericultural interest or of a special nature suited to that particular locality. From my enquiries I learn that this Institution is very popular with peasants and all sericulturists take advantage of it and cooperate whole-heartedly in its work.

Due to continuous drizzling and high temperature all over Japan, summer cocoon crops are very much affected. The prospects of cocoon market are gloomy. Generally crops suffered from grasserie. This is an unusual circumstance in the weather history of Japan.

During my tour in the West Japan I studied the various varieties

of mulberry cultivated in Japan in those parts and also the various farms of training, farming, etc., with special reference to 'dwarf and middle systems' and 'Hand and No Hand Systems' respectively.

Tokyo,
17-8-28.)

Sd/- K. Shamsuddin Khan,
Asst. Supdt. of Sericulture
on Deputation in Japan.

No 1 1592 w'dap.
25-9-28

Office of the Superintendent of
Sericulture in Mysore, Exhibition Buildings,
Mysore, dated the 21st September 1928.

Copies of the above (in duplicate) submitted to the Director of Industries and Commerce in Mysore, Bangalore, for favour of information.

H. S. Shinde
Superintendent of Sericulture.
MR

TR.

SUBJECT.....

Diary No. of letter replied to.....

General and Revenue Secretariat

the

192

Date of issue.....

28/11/28

Signed by.....

Mr. E. J. Miller

st of enclosures.....

Copied by.....

Examined by.....

Section

Ser.

File No.

52.28.

Serial No.

2

No.

5554

To

The Director of J. S.

Sir,

With reference to your letter no. 12-2359-27, dated 23rd October 1928, submitting a brief report of work done by Mr. K. Shanmuddin Khan, I am directed to state that Govt. have read the report with interest. It is requested you to be so good as to take necessary action on the various points noted in the report as indicated below:

(i) Fungus disease called Broad Rage (no. 10 of 5): If any remedial measures are being adopted at present, let us.

over

2/

7
permanent suggested by Mr. Shanmuddin
Khan ^{by} the use of Copper Sulphate
might be tried, in consultation
with the Agricultural Department for
the proper remedy.

(ii) Cooking of Cocoons: Combined
Cooking of Cocoons under the super-
vision of an expert is, no doubt,
an expedient ~~a necessary~~ of great value in a
large sized Filature. The suggestion
made by Mr. Shanmuddin Khan
might be tried for the French Filature
basins later on after the domestic
basins are installed in the Filature.

(iii) Convincances for Shifling Cocoons:

Mr. Shanmuddin Khan may be
asked to get a plan and a detailed
description of the shifling chamber and then may
be sent to Govt. for review with
your recommendation.

P.S. I am also to request you to
instruct Mr. S. Khan to include a
visit to Shanghai and Canton in
his itinerary at the time of his return
to India and make a special study of
the subject with particular refer

G. R. S. App F. G. 3.

GENERAL AND REVENUE
SECRETARIAT.

(Continuation sheet draft form.)

3
to us. facilities which contribute to make the Chinese product such a cheap article in the Indian market. The reports of work done by the scholars may be sent to Govt. as they are needed.

Chinese

WJ

15/11

23/11/28

for WJ

Rs. 1014/28,

6.82
14/11